

Issued



by the

SMITHSONIAN INSTITUTION  
U. S. NATIONAL MUSEUM

Vol. 103

Washington: 1953

No. 3314

## PHOTURIS BETHANIENSIS, A NEW LAMPYRID FIREFLY

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In August 1949, at Bethany Beach in southern Delaware, some observations were made on the few lampyrids then still flying. A single specimen of *Photinus pyralis* (Linnaeus, 1767) and one of *Photuris versicolor* (Fabricius, 1798) were observed, and a very few instances of a double greenish flash were noted over grass in a large vacant area at the north end of the town and perhaps 1,000 feet from the ocean front. The insects giving this flash were not captured, however, in spite of much pursuit, but another insect was seen to fly into the grass while giving the frequently repeated, rather dim flash characteristic of females of *Photuris*. This one was taken and proved to be a rather small female *Photuris* with a distribution of the black pigmentation on the pronotum different from any previously seen. Previous visits to Bethany Beach earlier in the year had yielded nothing notable, except the relative scarcity of lampyrids. In July 1951 I again spent a few days at Bethany Beach, and again saw the double greenish flash. This was considerably later than the usual period of prevalence of *P. versicolor*, and it seemed probable that this flash was that of a different species. Several males were taken, and one female, the latter unfortunately lost by accident, but it may be noted that the females are apparently relatively scarce.

It differs from other photurids so far found in Delaware by the relatively small size, the distribution of the pronotal pigmentation, and the rather distinctly different flash of the male. The pronotal black pigmentation, while rather variable, has a distinct tendency to be enlarged toward the apical margin, and in none of the specimens did this spot show the forms characteristic of those of *P. versicolor*,

*P. lucricrescens* Barber, 1951, or *P. hebes* Barber, 1951, all of which had been collected during the same summer in northern Delaware. The characteristic male flash is much like that of *Photinus consanguineus* LeConte, 1851, two short, bright coruscations separated by a distinct interval perhaps somewhat longer than that of a single coruscation, but is quite greenish as compared with the yellow light of *consanguineus*. Occasionally the second coruscation may be much less bright than the first, even with the same specimen, and a few apparently gave only a single flash but were indistinguishable from those giving the double flash.

The first male specimens were taken on July 11, 1951, over the same field where the single female was taken in 1949, and where they were still scarce, but two days later a large colony was found flying over the vegetation, largely bayberry, on both sides of the road leading south from the town, at about two miles. Trips to areas a mile or so inland from the beach yielded only *Photinus pyralis*, here very abundant at the time, and an occasional stray *Photuris versicolor*, so the new species seems to be a rather strictly seacoast, almost a sand-dune, form. It has not been seen in several visits along the southern New Jersey coast, particularly at Stone Harbor, but it would be somewhat surprising if it were not present there.

In view of these circumstances, this insect is here described from the males collected in 1951, and the single female of 1949, as a new species.

*Photuris bethaniensis*, new species

*Description*.—A rather small lampyrid for a *Photuris*, 9.0–10.75 mm. long by 3.5–4.0 mm. wide, with a black pronotal mark tending to be densest toward the apical edge. The characteristic male flash is two greenish coruscations separated by a short interval.

**HEAD:** Width across eyes 2.1–2.45 mm. in male, 1.8 mm. in female; eye length 1.15–1.3 mm. in male, 0.85 mm. in female. Frons ivory to yellow, about 0.8–1.0 mm. wide; interocular margins usually rather divergent. Mandibles fairly large, 0.65–0.8 mm. across in closed position; proportionately larger in the female. Maxillary palpi dark brown, apical joint conoidal; labial palpi lighter brown, apical joint mitten-shaped. Clypeus dark brown, more or less tridentate.

**ANTENNAE:** Dark brown, 5.0–6.25 mm. long in male, 4.25 mm. in female; joints may all have pale bases, or this may be limited to basal three joints in the female.

**PRONOTUM:** Scutate, sometimes extended apically, 2.0–2.5 by 2.55–3.0 mm.; rounded posterior angles may or may not be appreciably produced; red pigmentation may extend to the basal edge; black spot of variable shape, and characteristically mainly toward the apex, or

at least the larger portion of it apical, the longitudinal portion being usually merely an irregular and sometimes interrupted line, and but little developed along the basal margin.

SCUTELLUM AND MESONOTAL PLATES: White or yellow.

ELYTRA: 7.0–8.0 by 1.6–2.0 mm.; ground color brown to nearly black; on each a white to yellow vitta, oblique, usually extending to about three-quarters the elytral length; wide yellowish lateral borders which give a slightly oval contour; narrow sutural borders.

VENTRAL THORACIC SURFACE: Brown.

TERGITES: Tergites 1 to 6 brown; tergite 7 lighter or only partially infuscate; tergite 8 pale to white.

STERNITES: 2 to 5 usually brown, sometimes becoming darker in this order; sternite 5 may be yellow; sternites 6 and 7 luminous in the male; and sternite 8 with a median posterior point, which may be very short. The luminous area in the female differs from the pattern seen in *versicolor*, being a transverse bilobed area medially very narrow, on segment 6, and a relatively large elliptical area on segment 7.

LEGS: Long; tibial spurs long, pattern 0–2–2.

AEDEAGUS: In the one dissected, 2.25 mm. long, identical in appearance with that of *P. lucicrescens* and the other photurids described by Barber.<sup>1</sup>

*Type and paratypes.*—USNM 61469.

*Type locality.*—Bethany Beach, Del.

*Material examined.*—Holotype (male) and five paratypes, collected by McDermott at type locality, July 11, 1951; paratype (female), collected by McDermott at type locality, August 1949.

*Remarks.*—*Photuris bethaniensis* is probably a seacoast form; it has not been noted elsewhere. The flash suggests *P. fairchildi* Barber, 1951, but the latter is a larger species with narrow elytral borders.

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<sup>1</sup> Barber, H. S. North American fireflies of the genus *Photuris*. Smithsonian Misc. Coll., vol. 117, No. 1, pp. 1–58, 3 figs., 1951.